

**MILITARY TRAFFIC MANAGEMENT COMMAND  
DEPLOYMENT SUPPORT COMMAND  
(MTMC DSC)**



**U.S. COAST GUARD  
CONTAINER INSPECTION TRAINING & ASSISTANCE TEAM (CITAT)**



**DEPARTMENT OF DEFENSE  
DEPLOYMENT OF HAZARDOUS MATERIALS  
FIELD GUIDE**

**Revised: 24 September 2001**

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DEPLOYMENT HAZARDOUS MATERIAL  
FIELD GUIDE**

Note to user:

This field guide is only authorized for the surface transportation of hazardous material (land and sea) and does not include transportation of hazardous materials (HAZMAT) by air or the transport of ammunition.

The basic assumption for all deployments, including exercises, is that they will be international. As such, the International Maritime Dangerous Goods (IMDG) Code is applicable and should be observed as a matter of common practice for all deployments.

This guide is intended for use by the HAZMAT trained “certifier” in the typical unit who is responsible for the packaging and documentation of hazardous material. The objective of this guide is to eliminate the systemic HAZMAT discrepancies that occur during deployments. This guide is not meant to be “all inclusive” and cover every detail for every item. Instead, the guide focuses on those items that are common to most units and the issues frequently associated with them. Questions, comments, and suggestions concerning this field guide are always welcome.

Submit comments to Edie Moore at DSC, Reserve Affairs at [mooree@mtmc.army.mil].

David K. Grantham  
LTC, TC, DSC Reserve Affairs

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### **Purpose:**

- Assist Department of Defense (DoD) personnel in the interpretation of applicable U.S. & International regulations regarding the deployment of DoD hazardous materials (referred to as "Dangerous Goods" under international regulations).
- Provide easily accessible HAZMAT guidance in a clear, easy-to-understand format.
- Create a "living document" that continues to evolve through deployment experience, as feedback is received from the user, and as regulations change.
- Provide a single point of contact for all DoD HAZMAT deployment issues.

### **Objective:**

The objective of the HMFG is to significantly reduce or eliminate the recurring issues related to correctly deploying DoD hazardous materials.

### **Applicability:**

This guide currently applies only to materials under Hazard Classes 2,3,4,5,6,8 & 9.

### **Authority:**

- This guide is designed and maintained by the U.S. Coast Guard Container Inspection Training & Assistance Team (CITAT) in coordination with the Military Traffic Management Command, Deployment Support Command (DSC), the U.S. Army Materiel Command Logistics Support Activity Packaging, Storage, and Containerization Center (LOGSA PSCC), and the Office of Mobilization and Reserve Affairs.
- **This guide does not supercede or replace any of the requirements of Title 49, Code of Federal Regulations (CFR) or the International Maritime Dangerous Goods Code (IMDG);**
- **This guide does not alleviate the requirements or responsibility for HAZMAT training and/or certification.**

### **Feedback:**

Feedback to this guide is highly encouraged. All comments should be addressed to Edie Moore via e-mail [mooree@hq.mtmc.mil](mailto:mooree@hq.mtmc.mil).

## **HOW TO USE THIS FIELD GUIDE**

This field guide is meant to be self-explanatory. The list of common HAZMAT addressed by this guide will be updated frequently as information is gathered from the field. If the HAZMAT you are shipping is not on the list, refer to your HAZMAT regulations, i.e. Title 49, CFR and the IMDG or your local HAZMAT representative for direction. Even if your HAZMAT is listed in this guide, double-check the HAZMAT regulations and the Material Safety Data Sheet (MSDS) for your particular material.

This field guide is **NOT** meant to be a substitute for the IMDG and DOT regulations. These regulations are still the ultimate authority for all HAZMAT procedures and HAZMAT officers should have these documents available for reference.

## **REFERENCES**

Title 49, CFR revision: 1 October 2000

IMDG Code: 2000 edition (Amendment 30-00)

## IMPORTANT NOTES CONCERNING SOME FEATURES OF THIS FIELD GUIDE

**PREPARATION:** It is **EXTREMELY** important that the unit officer conduct an inventory of all items in their unit and determine their HAZMAT status. Not all HAZMAT is covered by this guide and some items may require special preparation/packaging requirements. The time of deployment is **NOT** the time to find out you don't have labels, the appropriate container, regulatory documents/references, etc. Some items take several days prior to deployment to prepare in order to minimize labor and documentation requirements (example: jerricans must be emptied of fuel and air dried so there is no wet residue, which can take time). Otherwise the jerricans must be purged (washed), which can be a labor-intensive process. The point is -- A LITTLE ADVANCED PLANNING AND PREPARATION CAN MAKE THE WHOLE DEPLOYMENT PROCESS MUCH EASIER. Also remember that deployments are most likely two-way trips. Be sure to have enough packing materials on hand for the return.

**MILVAN:** All HAZMAT items for this guide assume items will be loaded into a MILVAN, or similar transport container. References made to MILVANs also apply to similar type containers.

**Limited Quantities:** Limited quantities can only be used in combination packagings (a separate inner and outer package) and the total gross weight of the outer package cannot exceed 30 kg (66 lbs). There is no limit to the number of these outer packages that can be placed in a MILVAN (you can stuff the van and it will still be considered "limited quantity"). The outside package does not have to meet the specification packaging requirements, i.e. 4G/4D/1A1, however, the outer package must be sturdy. The statement "LTD QTY" must be marked on all outside packages and be included in the shipping description on the shipping documentation.

**Port Call Messages:** The Deployment Support Command issues a Port Call message for every unit deploying from/to a particular port. This message usually contains specific instructions for deployment that can be dependent upon the port of embarkation, deployment ship, and the port of debarkation. The Port Call message usually specifies vehicle preparation, fuel in tanks, fuel in jerricans, and more. Because the Port Call message is tailored to each specific deployment, the instructions contained in that message will take precedence over the information contained in this field guide - for that particular deployment.

**Determining material properties, flash points, boiling points:** Material properties, flash points, and boiling points, can most often be determined from the information contained on the material package and or by referencing the <sup>1</sup>DOD Hazardous Materials Information System (DoD 6050.5-L or -LR) or at <http://www.dlis.dla.mil/hmis>. NOTE: The DOD HMIS is the DOD central repository for Material Safety Data Sheets (MSDS) procured/managed by DOD and other federal agencies. Transportation data contained in the DOD HMIS should only be used as guidance in determining transportation requirements.

**Specification Packaging:** The type of package required for a particular HAZMAT item can be determined using the "Performance Oriented Packaging Program (POP)", which is accessible at

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<sup>1</sup> The DOD Hazardous Materials Information System (HMIS) is being redesigned and will be fielded in April 2002. The redesigned DOD HMIS will be renamed the DOD Hazardous Materials Information Resource System (HMIRS).

<http://www.ddc.dla.mil/ddcpop/client>. The program contains authorized DoD tested packaging configurations that conform to UN Specifications for shipment of non-bulk hazardous materials.

**Obtaining Specification Packaging, Label/Placard Kits, and other hazmat documentation:**

UN certified packaging(s) can be obtained through the normal DoD supply channels. The POP program contains stock numbers for those packages that DoD has tested. UN certified packaging(s), Label/Placard Kits, and HAZMAT documentation are available through a number of commercial sources. Example: Label/Placard Kits and HAZMAT documentation can be obtained through Label Master, 1-800-621-5808 (this is not an endorsement). ARMY ONLY: The Shippers Declaration for Dangerous Goods can be obtained through normal forms distribution channels as MISC-PUB 55-3. Identify your requirements and determine the procedure for obtaining this material in your locality.

**DD FORM 836/DD FORM 836C:** Can be obtained in "Perform" or "Adobe Acrobat" format from <http://web1.whs.osd.mil/forms>.

**Ask for Assistance:** A unit HAZMAT officer is not expected to know all the nuances and subtleties of deploying HAZMAT, which can only be gained through years of experience. One of the objectives of this field guide is to take advantage of our combined experiences, learn from them, and pass them along. Also, with that in mind, if parts of this guide are not clear, please bring it to our attention so that we can improve it. But NEVER, EVER hesitate to ask for assistance for any aspect of preparing HAZMAT for deployment, no matter how insignificant or minor it may seem. There are many HAZMAT experts located throughout DoD that are more than glad to help. Here are some points of contact:

Sandy Gorba     U.S. Army LOGSA PSCC, DSN: 795-6622, Comm: (570) 895-6622  
Bill Craze:     U.S. Army LOGSA PSCC, DSN: 795-7070, Comm: (570) 895-7070  
Art Miekowski: U.S. Army LOGSA PSCC, DSN: 795-7867, Comm: (570) 895-7867

**PREPARE, PREPARE, PREPARE!:** This can't be emphasized enough. Experience has shown, that most units have very little in way of HAZMAT. But somehow we always find creative ways to package HAZMAT incorrectly. Not identifying HAZMAT early; identifying any special packaging/preparation requirements; obtaining packaging/labeling materials in advance; and not preparing a plan as to how and where these items are to be packed can cause significant problems, lost time, and wasted money when these problems are multiplied by all units deploying.

## LIST OF MATERIAL

<u>ITEM #</u>	<u>DOD MATERIAL NAME</u>
1.	<a href="#">Acetylene, Dissolved</a>
2.	<a href="#">Argon, Compressed</a>
3.	<a href="#">Battery, Wet, Filled with Acid</a>
4.	<a href="#">Battery, Wet, Filled With Alkali</a>
5.	<a href="#">Battery, Wet Non-Spillable</a>
6.	<a href="#">Cesium</a>
7.	<a href="#">Engines, Internal, Combustion</a> , Flammable Liquid Powered
8.	<a href="#">Engine Starting Fluid</a> – see <a href="#">note</a>
9.	<a href="#">Ethyl Methyl Ketone</a>
10.	<a href="#">Fire Extinguishers</a>
11.	<a href="#">Gas, Oil</a> or Diesel Fuel
12.	Fuel Aviation, Turbine Engine
13.	<a href="#">Isopropanol</a>
14.	<a href="#">Kerosene</a>
15.	<a href="#">Lithium Batteries</a>
16.	<a href="#">Methanol</a>
17.	<a href="#">Naptha, Petroleum, Intermediate Range</a>
18.	<a href="#">Nitrogen, Compressed</a>
19.	<a href="#">Oxygen, Compressed</a>
20.	<a href="#">Propane</a>
21.	<a href="#">Radioactive Material Excepted. Package, Instruments</a>
22.	<a href="#">Tinctures, Medicinal</a>
23.	<a href="#">Insecticide Gases N.O.S.</a> - 2 cases: non-flammable and flammable
24.	<a href="#">Flammable Liquid, N.O.S.</a>
25.	<a href="#">Flammable Solid, N.O.S.</a>

\* **Note**: Proper Shipping Name for "Engine, Starting Fluid" is "Aerosol"



## MILVAN/CONTAINER PACKING

The following information should be considered whenever loading MILVANS or containers to prevent damage and ensure the safety of hazardous materials.

### All containers must:

- have current CSC certification.
- not exhibit any significant structural damage (e.g. broken welds, tears, fractures, etc.).
- have a DD Form 836 (Jan 2001), Block 12 - Container Packing Certificate -- Must be completed and signed, as applicable.

### You should expect the MILVAN and cargo to be:

- tilted 30 degrees in all directions (use proper shoring).
- cooled to the lowest temperature encountered (temperature sensitivity- freezing concerns).
- heated to 30 degrees above the highest temperature encountered (temperature sensitivity - heat concerns).
- required to support (4) MILVANS on top (160 tons) of it (container certification).- exposed to 2 times the cargo weight in the vertical axis (use proper internal cargo stacking, packaging, and shoring -- heavy items on the bottom, light items on top, lower items can support 2 times the weight of all items above them).
- exposed to half the items weight in the horizontal axis (use proper packaging and shoring).
- subjected to vibration throughout the transit (consider fragility of item, use proper packaging)
- develop its own weather system, humidity trapped in the MILVAN will collect on the ceiling during the day and rain down on the cargo at night. (consider length of storage and sensitivity to water damage, consider using a waterproof cover (i.e., plastic, tarp) for sensitive items).

### To protect the shipments ensure that:

- the MILVAN is loaded so the weight is evenly distributed and will not shift (required for highway transport and lifting stability).
- use shoring/tie downs to secure loads.
- Dangerous Goods/HAZMAT are loaded by the door for ease of inspection and access whenever possible.
- Dangerous Goods/HAZMAT are available for visual inspection (Items are not "buried" under or "behind" other cargo. If plywood is used in shoring, cutting 6" diameter holes in it will allow access for visual inspection. Bottom line: you don't want to unpack the container or remove shoring if an inspection is required).
- cargo is secured so that it will not move when the MILVAN tilted during lifting or ship movement.
- cargo will not crush that which is below it when twice the weight is applied.
- items next to each other will not cause damage when the load is vibrated over time.
- wet items (e.g. green wood) are not stowed with dry items.
- nothing is leaking, or will leak. (One leaky container may prompt the inspection of all containers).
- all Dangerous Goods/HAZMAT are properly packaged, labeled & marked IAW w/IMDG Code.
- all Dangerous Goods/HAZMAT in the MILVAN are [compatible](#).

- container packing list accurately describes items in the container to prevent confusion as to whether an item is hazardous or not. An item just marked "space heater", or "engine", or "lantern" may invoke an inspection if they are not listed on the DD Form 836, because the inspector has doubts of their hazard status (It's happened). However, if the items can be listed more accurately on the container packing list as "space heater - electric", "engine - new", or "lantern, kerosene - purged" the need for an inspection can be avoided.

**MILVAN HAZMAT Segregation.** It is very important to ensure proper compatibility and segregation of HAZMAT. To meet proper segregation requirements the user should refer to Title 49, CFR, Subpart C- Segregation and Separation Chart of HAZMAT, Part 177.848. Title 49, CFR provides a segregation chart which identifies proper segregation based on the items' class or division. When shipping by sea, the user should also refer to the IMDG, Chapter 7 and/or Title 49, CFR, Part 176, Carriage by Vessel, to identify any special segregation or compatibility requirements.

## # 1 - Acetylene, Dissolved

### **I.A Proper Shipping Name:**

Acetylene, Dissolved

### **I.B. UN Identification Number:**

UN1001

### **II. Packaging:**

- Packing Group: N/A (cylinders)
- Limited Quantity (IMDG): None allowed
- "Recommended" Pkg: Steel cylinder (DOT 8 or 8AL)
- Title 49, CFR: Section 173.303

### **III.B. Label &**

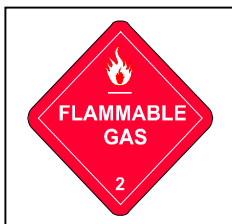
### **III.C. Placard**

### **III.A Marking (of Package):**

Acetylene, Dissolved, UN1001

### **IV. Shipping Paper) Description (DD Form 836)**

Acetylene, Dissolved, 2.1, UN1001



### **V. IMDG Observations / Information:**

- Packing Instruction: **P200**
- Special Packing Provision: **PP23**
- Rough handling & exposure to local heating should be avoided -could result in delayed explosion.
- Empty cylinders must be carried w/same precautions as filled.
- Explosive. Limits: 2.1% - 80%

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **116 (196)**

IMDG EmS #: **2-07**

### **VII. Notes:**

- Empty Acetylene containers, for just surface moves (rail/highway) do not have to be placarded ( Title 49, CFR 173.29c)
- A placard is required for all other instances, i.e., container contains residue, when container is moving by water.

## # 2 - Argon, Compressed

### **I.A Proper Shipping Name:**

Argon, Compressed

### **I.B UN Identification Number:** UN1006

### **II. Packaging:**

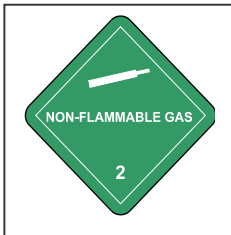
- Packing Group: N/A (cylinders)
- Limited Quantity (IMDG): 120 milliliters (mL)
- "Recommended" Pkg: Steel Cylinder
- Title 49, CFR: Section 173.302 & 306

### **III.A Marking (of Package):**

Argon, Compressed, UN1006

### **III.B. Label &**

### **III.C. Placard**



### **IV. Shipping Paper Description (DD Form 836):**

Argon, Compressed, 2.2, UN 1006

### **V. IMDG Observations/Information:**

- Packing Instruction: P200

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): 121 (206)  
IMDG EmS #: 2-04

### **VII. Notes:**

## # 3 - Battery, wet, filled with acid

### **I.A Proper Shipping**

#### **Name:**

Battery, wet, filled with acid

### **I.B Identification Number:**

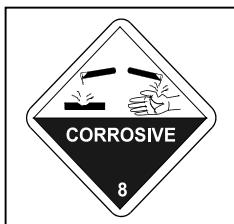
UN2794

### **II. Packaging Requirements:**

- Packing Group: III
- Limited Quantity (IMDG): 1 liter (L)
- "Recommended" Pkg:  
gross weight of 55 Kg or less: 4G fibreboard box  
gross weight of 400 Kg or less: 4 C/D /F wood box
- Title 49, CFR: Section 173.159

### **III.B. Label &**

### **III.C. Placard**



### **III.A Marking (of Package)**

Battery, wet, filled with acid, UN2794

### **IV. Shipping Paper Description**

#### **(DD Form 836):**

Battery, wet, filled with acid, 8, UN2794, III

### **V. IMDG Observations/Information:**

- Special Provision: 295
- Packing Instruction: P801

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): 154 (272)

IMDG EmS #: 8-10

### **VII. Notes:**

- This item applies only to batteries that are shipped separately and not installed in a vehicle. Batteries installed in vehicles are not regulated (Title 49 CFR, 173.220).
- Batteries should not be tilted over 45 degrees.
- Insulate battery terminals against short-circuiting.
- Do not use battery terminals for support.

## # 4 - Battery, wet, filled with alkali

### **I.A Proper Shipping Name:**

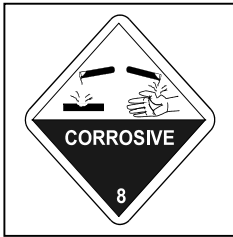
Battery, wet, filled with alkali

### **I.B Identification Number:** UN2795

### **II. Packaging:**

- Packing Group: III
- Limited Quantity (IMDG): 1 liter (L)
- "Recommended" Pkg:
  - gross weight of 55 Kg or less: 4G fibreboard box
  - gross weight of 400 Kg or less: 4C/D /F wood box
- Title 49, CFR: Section 173.159

### **III.B. Label & III.C. Placard**



### **III.A. Marking (of Package)** "Battery wet, filled with alkali, UN2795

### **IV. Shipping Paper Description:** **(DD Form-836)**

Battery wet, filled with alkali, 8, UN2795, III

### **V. IMDG Observations/Information:**

- Special Provision: 295
- Packing Instruction: P801

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): 154 (272)  
IMDG EmS #: 8-10

### **VII. Notes:**

- This item applies only to batteries that are shipped separately and not installed in a vehicle. Batteries installed in vehicles are not regulated (Title 49, CFR, 173.220).
- Batteries should not be tilted over 45 degrees.
- Insulate battery terminals against short-circuiting.
- Do not use battery terminals for support.

## **# 5 - Battery, wet non-spillable**

**I.A. Proper Shipping Name:**  
Battery, wet non-spillable

**I.B. Identification Number:**  
UN2800

**II. Packaging Requirements:**

- Packing Group: III
- Limited Quantity (IMDG): 1 liter (L)
- "Recommended" Pkg: insulate terminals against short circuits and securely pack in strong outer packaging.
- Title 49, CFR: Section 173.159

**III.A Marking (of Package)**  
Battery, wet non-spillable, UN2800

**III.B. Label &**

**III.C. Placard**

No label required.  
Package to be marked  
"Class 8"

**IV. Shipping Paper Description**  
**(DD Form 836):**

Battery, wet, non-spillable, 8, UN2800, III

**V. IMDG Observations / Information:**

- Special Provisions: **238, 940**
- Packing Instruction: **P003**
- Special Packaging Provision: **PP16**
- Insulate terminals against short-circuiting.
- Able to withstand IMDG vibration & attitude tests as found in Vol. IV, Pg. 8121.

**VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **154 (272)**

IMDG EmS #: **8-10**

**VII. Notes**

- The battery must have the words "wet non-spillable" or "non-spillable battery" labeled by the manufacturer on the outer cover. If this is true, the battery is exempt from all requirements.
- If this is not true, the battery must be treated as a "battery, wet filled with Alkali, or acid".

## # 6 - Caesium (Cesium)

### **I.A Proper Shipping Name:**

Caesium

### **I.B Identification Number:** UN1407

### **II. Packaging Requirements:**

- Packing Group: I only
- Limited Quantity (IMDG): None allowed
- "Recommended" Pkg: Refer to IMDG Dangerous Goods List, Column 8.
- Title 49, CFR: Section 173.211

### **III.B. Label & III.C. Placard**

### **III.A Marking (of Package)** Caesium, UN1407

### **IV. Shipping Paper Description (DD Form 836):** Caesium, 4.3, UN1407, I



### **V. IMDG Observations (International):**

- Packing Instruction: **P403**
- Special Packing Provision: **PP31**

### **VI. Emergency Response:** 2000 Emergency Response Guidebook # (Pg #): **138 (241)** IMDG EmS #: **4.3-01**

### **VII. Notes:**

- Check special provision **N34** in Section **172.102**.
- Check special provision **N40** in Section **172.102**.



## **# 7 - Engines, internal combustion, flammable liquid powered (for spare/used engines)**

### **I.A. Proper Shipping Name:**

Engines, internal combustion

### **III.B. Label &**

### **III.C. Placard**

### **I.B Identification Number:** UN3166

### **II. Packaging:**

- Packing Group: N/A
- Limited Quantity (IMDG): N/A
- "Recommended" Pkg: Wood Crate
- Title 49, CFR: Section 173.220

### **III.A. Marking (of Package)**

Engines, internal combustion, UN3166

### **IV. Shipping Paper Description: (DD Form 836)**

#### **If Note #2 doesn't apply:**

Engines, internal combustion, 9, UN3166

### **V. IMDG Observations/Information:**

- Not regulated under IMDG. Title 49, CFR does apply.

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **128 (221)**

### **VII. Notes:**

- This item pertains to "stand-alone" engines and does not apply to engines that are installed in vehicles, generators, etc.
- If new, i.e., has not run, no fuel has been added, then the engine is not regulated.

## # 8 - Engine starting fluid

### **I.A Proper Shipping Name:**

**Section:** Aerosols,  
Flammable, n.o.s.

**IMDG:** Aerosols



### **III.B Label & III.C Placard**



### **I.B Identification Number:** UN1950

### **II. Packaging Requirements:**

- Packing Group: N/A
- Limited Quantity (IMDG): See Special Provision **277**.
- Recommended Pkg: If Aerosol is 1000 cm<sup>3</sup> or less, can package in wooden box.
- Title 49, CFR: Section 173.306

### **III.A Marking:**

**Section:** Aerosols, flammable, n.o.s., UN1950

**IMDG:** Aerosols, UN1950

**Note:** May require Marine Pollutant mark (on left) depending on concentrations of pollutants.

- If less than 1000 cm<sup>3</sup>, no label is required, just the marking "aerosols" is required to be printed on the container. The marine pollutant mark is still required.

### **IV. Shipping Paper Description (DD Form 836):**

**Section:** Aerosols, flammable, n.o.s., 2.1, UN1950, II, Marine Pollutant (if required).

**IMDG:** Aerosols, 2.1, UN1950, II, Marine Pollutant (if required).

### **V. IMDG Observations (International):**

- Special Provisions: **63, 190, 190, 277, 913**
- Packing Instruction: **P003**
- Special Packing Provision: **PP17**

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **126 (217)**

IMDG EmS #: **2-13**

### **VII. Notes**

- When in a cylinder (i.e. DOT-39) use proper shipping name: Compressed gas, flammable, n.o.s. (**technical name**) UN1954

## # 9 - Ethyl Methyl Ketone

### **I.A Proper Shipping**

#### **Name:**

Ethyl Methyl Ketone

### **III.B Label &**

### **III.C Placard**



### **I.B Identification Number:**

UN1193

### **II. Packaging Requirements:**

- Packing Group: II
- Limited Quantity (IMDG): 1 liter (L) per inner package
- Recommended Package: See Packing Instruction **P001**
- Title 49, CFR : Section 173.202

### **III.A Marking (of Package):**

Ethyl Methyl Ketone, UN1193

### **IV.A Shipping Paper Description**

#### **(DD Form 836):**

Ethyl Methyl Ketone, 3, UN1193, II (-1° C c.c)

### **V. IMDG Observations / Information):**

- Packing Instruction: **P001**
- Expl. Limits: Flashpoint:  
1.8%11.5% -1 C (closed cup test)

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **127 (203)**

IMDG EmS #: **3-06**

### **VII. Notes:**

If greater than or equal to 5000 lbs (2270 Kg), a RQ is required. (Appendix A to 172.101)

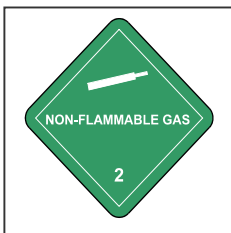
## # 10 - Fire extinguishers

### **I.A Proper Shipping Name:**

Fire extinguishers

### **III.B. Label &**

### **III.C. Placard**



### **I.B Identification Number:** UN1044

### **II. Packaging:**

- Packing Group: N/A (cylinders)
- Limited Quantity (IMDG): 120 milliliters (mL)
- "Recommended" Pkg: Steel cylinders  
Outer package: Fiberboard box: 55 Kg or less  
Wooden box: 125 Kg or less
- Title 49, CFR: Section 173.309

### **III.A. Marking (of Package)** Fire Extinguishers, UN 1044

### **IV. Shipping Paper Description:** **(DD Form 836)** Fire Extinguishers, 2.2, UN 1044

### **V. IMDG Observations/Information:**

- Special Provision: 225
- Packing Instruction: P003

### **VI. Emergency Response:** 2000 Emergency Response Guidebook # (Pg #): 126 (217) IMDG EmS #: 2-13

### **Notes:**

### **MTMC Specific:**

- **\*\*\* Highly recommend that extinguishers are kept in their vehicles and secured in their authorized mounts. As such, no documentation required\*\*\*.** This is at the unit commander's discretion.
- May use any fiberboard box, cut and roughly shaped to fit the individual fire extinguisher. This is sufficient as long as the box is secure, labeled appropriately, and only one fire extinguisher is used per box.
- Pre-labeled fire extinguisher shipping boxes are available through supply.
- See Special Provision Note #18 ( Title 49, CFR, Section 172.101) to ensure the fire extinguisher meets the provisions of this card.

## # 11 - Gas, oil or Diesel fuel (jerricans)

### **I.A Proper Shipping Name:**

Gas, oil or  
Diesel fuel

### **I.B UN Identification Number:** UN1202

### **II. Packaging:**

- Packing Group: III
- Limited Quantity (IMDG): see notes
- "Recommended" Pkg: 3H1 or 3H2 (plastic jerricans),  
note - steel containers are not authorized.
- Title 49, CFR: Section 173.203

### **III.B Label & III.C Placard**

### **III.A. Marking (of Package):**

Gas, oil, UN1202  
or Diesel fuel, UN 1202

### **IV. Shipping Paper (DD Form 836) Description**

Gas, oil, 3, UN1202, III

(if empty) Empty, last contained Gas, oil, 3, UN1202, III



### **V. IMDG Observations/Information:**

- Packing Instruction: P001
- Flashpoint: 23-61 C (closed cup)

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): 128 (220)

IMDG EmS #: 3-07

### **Notes:**

- Refer to the MTMC Port Call message for specific guidance concerning fuel and fuel containers mounted on deploying vehicles. Often, when jerricans are carried in their vehicle mountings per the MTMC Port Call instructions, no documentation is required.
- For loading jerricans into MILVAN, the containers **do not** have to be purged, but must be empty & aired **with no wet residue**. These containers must be appropriately marked, labeled and documented as "empty, last contained, gas, oil".
- Purged fuel containers/tanks are not regulated. However, clearly mark the MILVAN packing list to avoid potential HAZMAT confusion (example: list on packing list as "Fuel Container - Purged" or "Jerrican - Purged"). All hazmat markings or labels on the container must be removed.

## # 12 – Fuel aviation, turbine engine (JP8 - jerricans)

### I.A Proper Shipping Name:

Fuel aviation,  
turbine engine

### I.B UN Identification Number:

UN1863

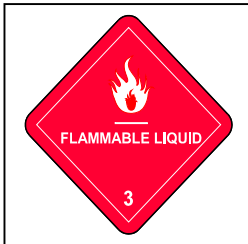
### II. Packaging:

- Packing Group: III
- Limited Quantity (IMDG): 5 liters (5L)
- "Recommended" Pkg: 3H1 or 3H2 (plastic jerricans),  
note - steel containers are not authorized.
- Title 49, CFR: Section 173.203

### III.A. Marking (of Package):

Fuel aviation, turbine engine, UN1863

### III.B Label & III.C Placard



### IV. Shipping Paper (DD Form 836) Description

Fuel aviation, turbine engine, 3, UN1863

(if empty) Empty, last contained Gas, oil, 3, UN1202, III

### V. IMDG Observations/Information:

- Packing Instruction: P001
- Flashpoint: 23-61 C (closed cup)

### VI. Emergency Response:

2000 Emergency Response Guidebook # (Pg #): 128 (220)

IMDG EmS #: 3-07

### Notes:

- Refer to the MTMC Port Call message for specific guidance concerning fuel and fuel containers mounted on deploying vehicles. Often, when jerricans are carried in their vehicle mountings per the MTMC Port Call instructions, no documentation is required.
- For loading jerricans into MILVAN, the containers **do not** have to be purged, but must be empty & aired **with no wet residue**. These containers must be appropriately marked, labeled and documented as "empty, last contained, Fuel aviation, turbine engine."
- Purged fuel containers/tanks are not regulated. However, clearly mark the MILVAN packing list to avoid potential HAZMAT confusion (example: list on packing list as "Fuel Container - Purged" or "Jerrican - Purged"). All hazmat markings or labels on the container must be removed.

## # 13 - Isopropanol

### **I.A Proper Shipping Name:**

Isopropanol

### **III.B Label & III.C Placard**



### **I.C UN Identification Number:**

UN1219

### **II. Packaging:**

- Packing Group: II
- Limited Quantities: 1 liter (L) per inner package
- Recommended Pkg: Packing Instruction **P001**
- Title 49, CFR: Section 173.202.

### **III.A Marking:**

Isopropanol, UN 1219

### **IV. Shipping Paper Description (DD Form 836):**

Isopropanol, 3, UN1219, II (12°C c.c)

### **V. IMDG Observations / Information :**

- Packing Instruction: **P001**
- Expl. Limits:            Flashpoint:  
2.0%-12%    12° C (closed cup test)

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **129 (206)**

IMDG EmS #:    **3-06**

### **VII. Notes:**

## # 14 - Kerosene

### **I.A Proper Shipping**

#### **Name:**

Kerosene

### **I.B UN Identification Number:**

UN1223

### **II. Packaging:**

- Packing Group: III
- Limited Quantity (IMDG): 5 liters (L) per inner package
- "Recommended" Pkg: Strong outer package if limited quantity, otherwise, refer to IMDG Packing Instruction **P001**, combination packaging.
- Title 49, CFR: Section 173.203

### **III.B Label &**

### **III.C Placard**



### **III.A. Marking:**

Kerosene, UN1223

### **IV. Shipping Paper (DD 386) Description**

For bulk Kerosene, use:

Kerosene, 3, UN1223, III, <flashpoint>

For items that uses Kerosene as fuel and contain residue, use: RESIDUE: Last Contained, Kerosene, 3, UN1223, III, <flashpoint>

### **V. IMDG Observations / Information:**

- Packing Instruction: **P001**
- Flashpoint: 23-61 C (closed cup test)

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **128 (204)**

IMDG EmS #: **3-07**

### **VII. Notes:**

- IMDG requires the annotation of the flashpoint if under 61°C c.c.
- Kerosene may not be shipped alone in their original tin container. The material must be packaged as described in section II, above.
- Wicks do not have to be dry or removed from heaters, lanterns, etc. However, tanks must be empty and free of wet residue. These items can then be packaged in strong outer packaging and marked appropriately.
- New items that use kerosene as fuel are not HAZMAT if they have never been fueled. These items should be clearly labeled on the packing list to indicate their actual status to avoid the potential for misinterpretation. Example: The packing list should state "Heater, Kerosene -New".



## # 15 - Lithium Batteries

### **I.A Proper Shipping Name:**

Lithium Batteries

### **I.B UN Identification Number:** UN3090

### **II. Packaging:**

- Packing Group: II
- Limited Quantities: None
- Recommended Pkg:
  - up to 250 Kg use Fiberboard box 4G
  - over 250 Kg use Wooden Box 4C/D/F
- Title 49, CFR: Section 173.185.

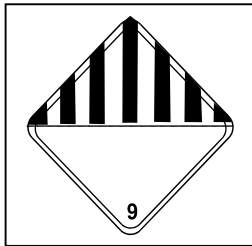
### **III.B Label & III.C Placard**

### **III.A Marking:**

Lithium Batteries, UN3090

### **IV. Shipping Paper Description (DD Form 836):**

Lithium Batteries, 9, UN3090, II



### **V. IMDG Observations / Information:**

- Special Provisions: 188, 230, 287
- Packing Instruction: P903
- Must meet multiple requirements of Section 173.185. See Title 49, CFR, Section 173.185.

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): 138 (224)

IMDG EmS #: 4.1- 06

### **VII. Notes:**

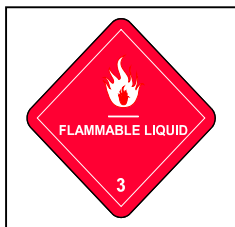
- Keep new batteries in their original battery packaging until ready for use. Keep original battery packaging to use for expended batteries.
- May only transport lithium batteries in the U.S. that are in accordance with Title 49, CFR, Section 173.185.
- User should review the product information and MSDS in HMIS to determine if the lithium battery you are shipping is regulated for shipment. Some lithium batteries are not regulated.

## # 16 - Methanol

**I.A Proper Shipping Name:**  
" Methanol "

**I.B UN Identification Number:**  
UN1230

**III.B Label &  
III.C Placard**



**II. Packaging:**

- Packing Group: II (I allowed)
- Limited Quantities: 1 liter (L) per inner package
- Recommended Pkg: refer to Packaging Instruction **P001**, combination packaging
- Title 49, CFR: Section 173.202

**III.A. Marking:**

Methanol, UN1230

**IV. Shipping Paper Description  
(DD Form 836):**

Methanol, 3.2, UN1230, II, Toxic (12°C c.c) (See Note 1)

**V. IMDG Observations / Information:**

- For Poison: Avoid skin contact & toxic if swallowed.
- Special Provision: **279**
- Packing Instruction: **P001**
- Expl. Limits: Flashpoint:  
6.0%-36.5% 12 C (closed cup test)

**VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **131 (210)**

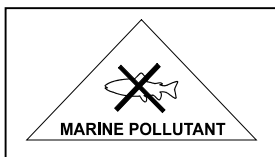
IMDG EmS #: **3-06**

**VII. Notes:**

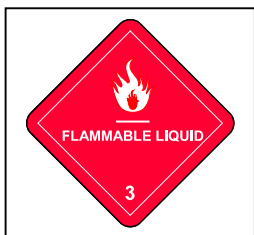
- IMDG requires flashpoint if below 61°C c.c.
  - If greater than or equal to 5000 lbs (2270 Kg), an RQ is required (appendix A to 172.101)

**# 17 - Naptha, Petroleum - Intermediate Range**  
**<< IMPORTANT: YOU NEED TO KNOW THE FLASHPOINT OF YOUR  
NAPTHA TO DETERMINE IF THIS CARD IS APPLICABLE>>**

**I.A Proper Shipping Name:**  
Petroleum Distillates,  
N.O.S.



**III.B Label &  
III.C Placard**



**I.B UN Identification Number:**  
UN1268

- II. Packaging:**
- Packing Group: II
  - Limited Quantities: 1 liter (L)
  - Recommended Pkg: 1A1 Drum (to 250 kg)
  - Title 49, CFR : Section 173.202

**III.A. Marking:**  
Petroleum Distillates, N.O.S., UN1268  
**Note: May require Marine Pollutant mark (on left)  
depending on concentrations of pollutants.**

**IV. Shipping Paper Description  
(DD Form 836):**  
Petroleum Distillates, N.O.S., 3, UN1268, II, Marine  
Pollutant (if required), -18° C c.c.

- V. IMDG Observations /Information:**
- Special Provision: 944
  - Packing Instruction: P001
  - Flashpoint:  
-18° C - 23°C (closed cup test)

**VI. Emergency Response:**  
2000 Emergency Response Guidebook # (Pg #): 128 (220)  
IMDG EmS #: 3-07

- VII. Notes:**
- Packing group is dependent upon the flash point and boiling point.
  - Must refer to the Title 49, CFR or seek guidance, for cases where naptha is located in the low or high flash point ranges.

## # 18 - Nitrogen, compressed

### **I.A Proper Shipping**

#### **Name:**

Nitrogen, compressed

### **I.B UN Identification Number:**

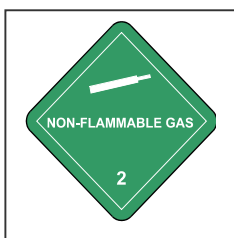
UN1066

### **II. Packaging:**

- Packing Group: N/A (cylinder)
- Limited Quantities: 120 milliliters (mL)
- Recommended Pkg: Steel cylinder
- Title 49, CFR: Section 173.**302** and **306**

### **III.B Label &**

### **III.C Placard**



### **III.A. Marking:**

Nitrogen, Compressed, UN1066

### **IV. Shipping Paper Description**

#### **(DD Form 836):**

Nitrogen, compressed, 2.2, UN1066

### **V. IMDG Information:**

- Packing Instruction: **P200**

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **121 (208)**

IMDG EmS #: **2-04**

### **VII. Notes:**

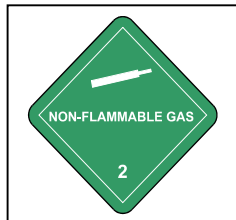
## # 19 - Oxygen, compressed

### **I.A Proper Shipping Name:**

Oxygen, compressed

### **III.B Labels &**

### **III.C Placards**



### **I.B UN Identification Number:**

UN1072

### **II. Packaging:**

- Packing Group: N/A (cylinder)
- Limited Quantities: N/A
- Recommended Pkg: Steel Cylinder
- Title 49, CFR: Section 173.302.

### **III.A Marking:**

Oxygen, Compressed, UN1072

### **IV. Shipping Paper Description** **(DD Form 836):**

Oxygen, compressed, 2.2, UN1072, Oxidizing Agent

### **V. IMDG Information:**

- Packing Instruction: P200

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): 122 (208)

IMDG EmS #: 2-04

### **VII. Notes:**

- Must use both "non-flammable gas" and "oxidizer" label/placard. The "Oxygen Placard" may be used in lieu of the "Oxidizer" placard.



## **# 20 - Propane**

### **I.A Proper Shipping**

#### **Name:**

Propane

### **III.B Label &**

### **III.C Placard**



### **I.B UN Identification Number:**

UN1978

### **II. Packaging:**

- Packing Group: N/A (cylinder)
- Limited Quantities: N/A
- Recommended Pkg: Steel Cylinder
- Title 49, CFR: Section 173.304.

### **III.A Marking:**

Propane, UN1978

### **IV. Shipping Paper Description (DD Form 836):**

Propane, 2.1, UN1978

### **I.D IMDG Observations / Information:**

- Packing Instruction: **P200**
- Expl. Limits: Flashpoint:  
1%-15% None

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **115 (194)**

IMDG EmS #: **2-07**

### **VII. Notes:**

## **# 21 - Radioactive material, excepted package-instruments**

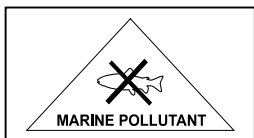
### **NOTE:**

- "Common" unit equipment containing radioactive materials, i.e. Chemical Agent Monitors and Alarm Kits, are most likely "excepted packaging". As such, the documentation and segregation requirements are significantly relaxed. However, a database does not yet exist that identifies "common" unit equipment containing radioactive material.
- Therefore, until those "excepted package" items can be identified and posted in this field guide, it is the responsibility of the HAZMAT officer to determine the specific nature of their equipment and determine its shipping requirements. If assistance is required, you may refer to the item's original shipping documentation; call your installation HAZMAT/Radiation Protection Officer; or call the DA HAZMAT liason, Art Miekowski at the U.S. Army Materiel Command Logistics Support Activity, Tobyhanna, PA, 1-570-895-7867/7070 (DSN 795-7867/7070).

## # 22 - Tinctures, medicinal

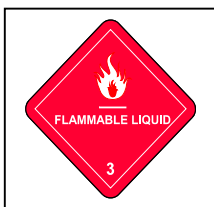
### **I.A Proper Shipping Name:**

Tinctures, medicinal



### **III.B Label &**

### **III.C Placard**



### **I.B UN Identification Number:**

UN1293

### **II. Packaging:**

- Packing Group: II
- Limited Quantities: 1 liter (L) per inner package
- Recommended Pkg: IMDG Packing Instruction **P001**
- Title 49, CFR: Section 173.202

### **III.A Marking:**

Tinctures, Medicinal, UN 1293

**Note:** May require Marine Pollutant mark (on left) depending on concentrations of pollutants.

### **IV. Shipping Paper Description (DD Form 836):**

Tinctures, Medicinal, 3, UN 1293, II, Marine Pollutant (if required) <actual flashpoint> (See Note 1)

### **V. IMDG Observations / Information):**

- Special Provision: **944**
- Packing Instruction: **P001**
- Expl. Limits: Flashpoint:  
N/A -18 to 23 C (closed cup test)
- In intermediate flashpoint group

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **127 (218)**

IMDG EmS #: **3-06**

### **VII. Notes:**

Note 1: IMDG requires the flashpoint to be listed if it is below 61°C c.c.



**Note that there are two types:**  
**# 23 - Insecticide Gases, N.O.S.**  
**TYPE <<non-flammable>>**  
(non-flammable is typical for store brands)

**I.A Proper Shipping Name:**

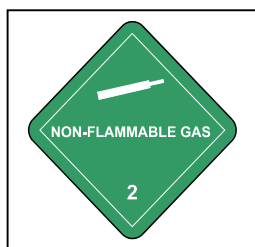
Insecticide Gas, N.O.S.  
(Technical Name)

**I.B UN Identification Number:**  
UN1968

**II. Packaging:**

- Packing Group: N/A
- Limited Quantities: 120 milliliters (mL) per inner package
- Recommended Pkg: IMDG Packing Instruction: **P200**
- Title 49, CFR: Section 173.304

**III.B Label &**  
**III.C Placard**



**III.A Marking (of Package):**

Insecticide Gases, N.O.S., <Technical Name>, UN 1968

**Note: May require Marine Pollutant Mark depending on concentrations of pollutants.**

**IV. Shipping Paper Description**  
**DD Form 836):**

Insecticide Gas, N.O.S., <Technical Name>, 2.2, UN 1968,  
Marine Pollutant (if required)

**V. IMDG Observations / Information:**

- Special Provision: **274**
- Packing Instruction: **P200**
- Explosive Limits: Variable

**VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **126 (216)**

IMDG EmS #: **2-09**

**VII. Notes:**

- The container will state if the contents are flammable
- per the Section, the hazardous substance requires an RQ if there is a large enough quantity (see Appendix A to 172.101)

**Note that there are two cases:**  
**# 23 - Insecticide Gases, N.O.S.**  
**TYPE << flammable>>**

**I.A Proper Shipping Name:**

Insecticide gas,  
flammable, N.O.S.  
(Technical Name)

**III.B Label &**  
**III.C Placard**



**I.B UN Identification Number:**  
UN3354

**II. Packaging:**

- Packing Group: N/A
- Limited Quantities: None
- Recommended Pkg: IMDG Packing Instruction: **P200**
- Title 49, CFR: Section 173.304

**III.A Marking (of Package):**

Insecticide gas, flammable, N.O.S., <Technical Name>,  
UN 3354

**Note: May require Marine Pollutant Mark depending on concentrations of pollutants.**

**IV. Shipping Paper Description**  
**DD Form 836):**

Insecticide gas, flammable, N.O.S., <Technical Name>,  
2.1, UN 3354

**V. IMDG Observations / Information:**

- Special Provision: **274**
- Packing Instruction: **P200**
- Explosive Limits: Variable

**VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg#): **153 (271)**  
IMDG EmS #: **2-07**

**VII. Notes:**

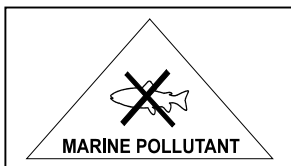
- The container will state if the contents are flammable
- per the Section, the hazardous substance requires an RQ if there is a large enough quantity (see Appendix A to 172.101)
- **Technical Name can be obtained on the item MSDS**

## # 24 - Flammable Liquid, N.O.S.

### **I.A Proper Shipping**

#### **Name:**

Flammable Liquid, N.O.S.  
(Technical Name)



### **III.B Label &**

### **III.C Placard**



### **I.B UN Identification Number:**

UN1993

### **II. Packaging:**

- Packing Group: II (\* - see note)
- Limited Quantities: 1 liter (L) per inner package
- Recommended Pkg: Steel Drum (1A1 or 2)  
{See IMDG Packing Instruction **P001**}
- Title 49, CFR: Section **201**

### **III.A Marking (of Package):**

Flammable Liquid, N.O.S. (Technical Name) UN 1993

**Note:** May require Marine Pollutant mark (on left)  
depending on concentrations of pollutants.

### **IV.A Shipping Paper Description**

#### **(DD Form 836):**

Flammable Liquid, N.O.S. (Technical Name), 3 (\* - see note), UN1993, II , <flashpoint> (See Note 1)

### **I.D IMDG Observations / Information:**

- Special Provisions: **274, 944**
- Packing Instruction: **P001**
- Expl. Limits: Flashpoint:  
None below -18 C (closed cup test)

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **128 (220)**

IMDG EmS #: **3-07**

### **VII. Notes:**

- \* - Flash point and packing group may change based on chemical properties.
- IMDG requires documenting flashpoint if below 61°C c.c
- **Section:** May be Hazardous Substance (RQ) if large enough quantity (see Appendix A to 172.101).
- **Technical Name can be obtained from the item MSDS.**

## # 25 - Flammable Solid, N.O.S.

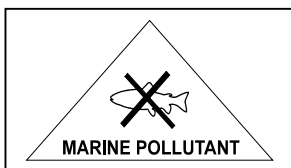
### **I.A Proper Shipping Name:**

Flammable Solid,  
Organic, N.O.S.  
(Technical Name)

### **I.B UN Identification Number:** UN1325

### **II. Packaging:**

- Packing Group: II or III
- Limited Quantities: II – 500 grams (g)  
III - 3 kilograms (kg)
- Recommended Pkg: IMDG Packing Instruction: **P002**  
Section 173.212 - PG II  
Section 173.213 - PG III



### **III.A Marking:**

"Flammable Solid, Organic, N.O.S. (Technical Name) UN 1325"

**Note:** May require Marine Pollutant mark (on left) depending on concentrations of pollutants.

### **III.B Label & III.C Placard**



### **IV. Shipping Paper Description (DD Form 836):**

Flammable Solid, Organic, N.O.S. (Technical Name), 4.1, UN 1325, II or III (according to properties)

### **V. IMDG Observations / Information:**

- Special Provisions: **223, 274, 915, 944**
- Packing Instruction: **P002**
- Should not be used for wetted explosives, self-reactive substances or metal powders.

### **VI. Emergency Response:**

2000 Emergency Response Guidebook # (Pg #): **128 (220)**  
IMDG EmS #: **4.1-05**

### **VII. Notes:**

**Section:** May be Hazardous Substance (RQ) if large enough quantity (see Appendix A to 172.101)  
**Technical Name can be obtained on the item MSDS.**